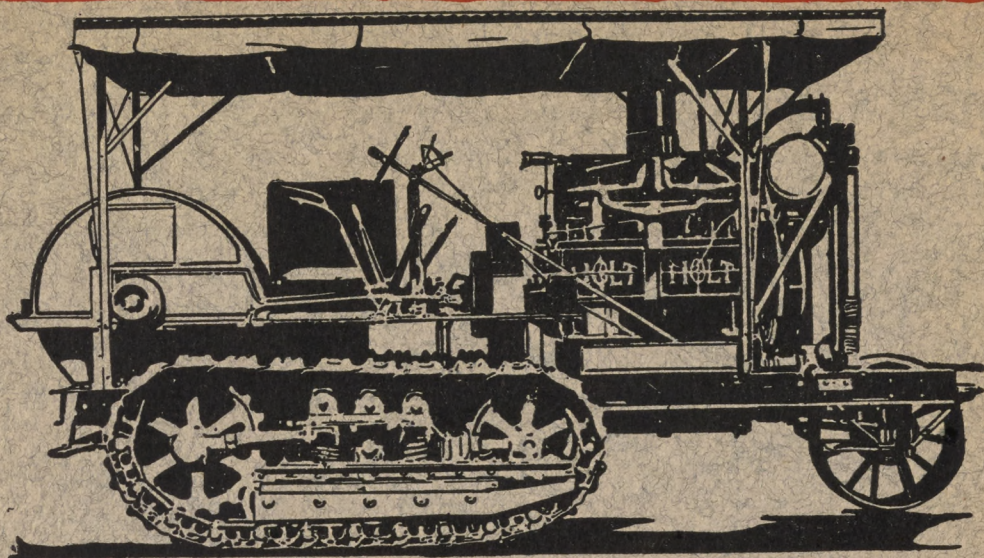


Cat



The One Universal Tractor

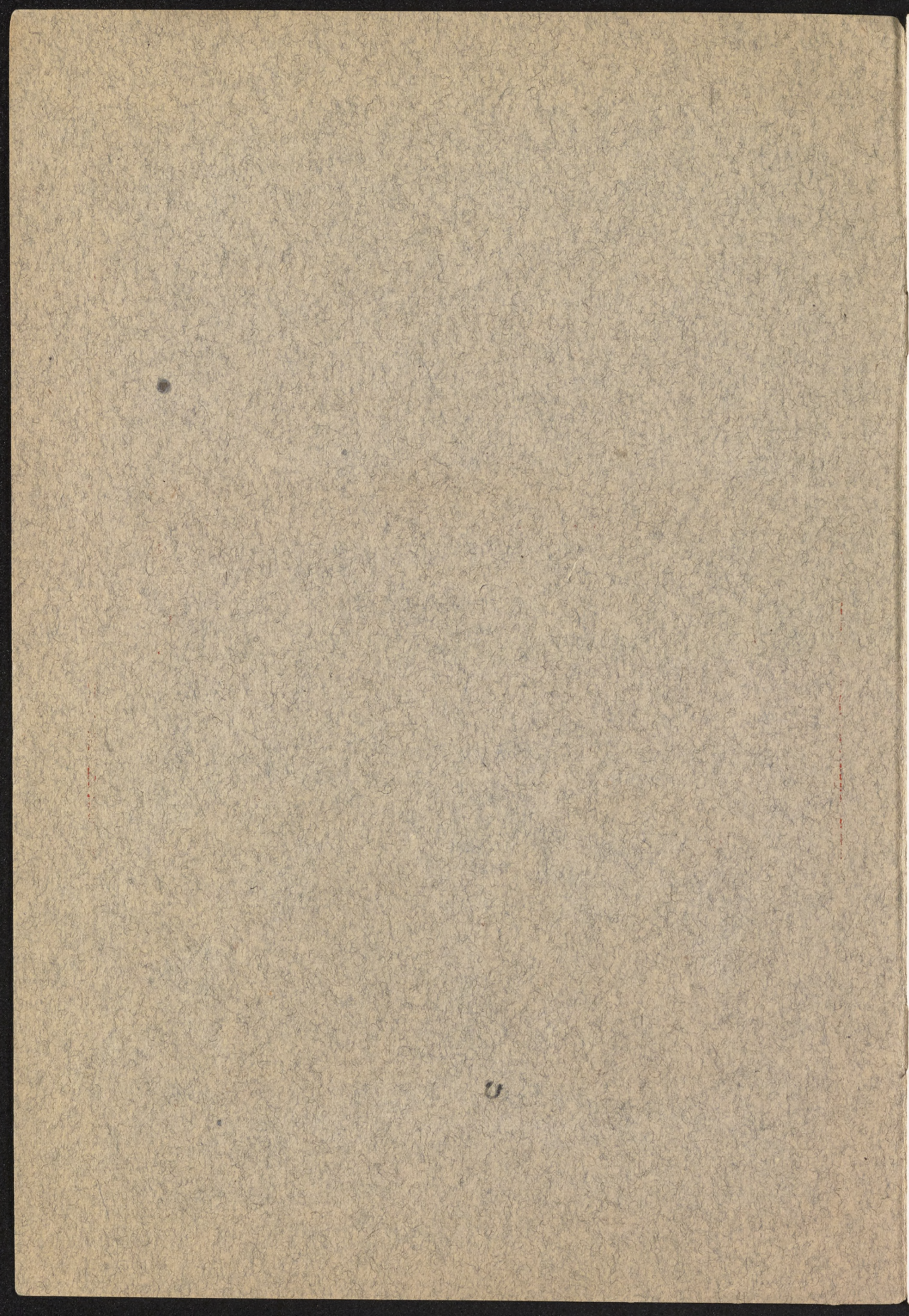
**CATERPILLAR**

Reg US Pat Off



**HOLT**







# THE HOLT MANUFACTURING COMPANY

INCORPORATED

STOCKTON, CALIFORNIA



## FACTORIES

**Stockton**  
California

**Peoria**  
Illinois

## Branches and Sales Agents

Stockton, Calif.  
San Francisco, Calif.  
Los Angeles, Calif.  
Spokane, Wash.  
Calgary, Alta., Canada  
Portland, Ore.  
Denver, Colo.

Peoria, Ill.  
Fargo, N. D.  
New Orleans, La.  
Wichita, Kan.  
New York, N. Y.  
Houston, Tex.  
Omaha, Neb.

## Foreign Sales Agents

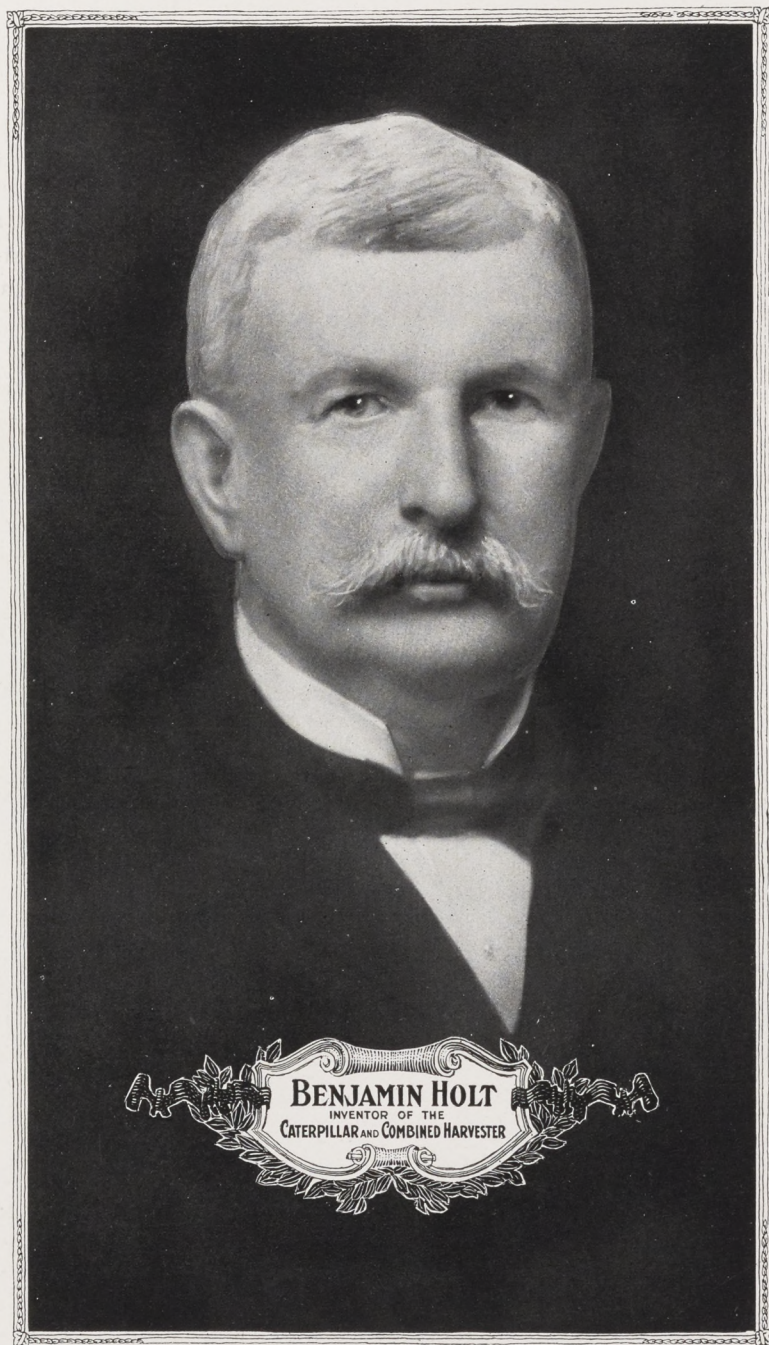
IN ALL PRINCIPAL COUNTRIES OF THE WORLD

*Forty-three years of manufacturing experience*

Bulletin T. E. 59.

Copyright 1914  
By The Holt Manufacturing Company







# There's But One Caterpillar

## Holt Builds It

**T**HE TWENTIETH CENTURY was but five years old when The Holt Manufacturing Company built the first successful track-laying tractor. The endless track, with its sure grip and big bearing surface, first made the traction engine fit for *universal* use as a farm power to replace horses. The creeping motion of the track suggested the name "Caterpillar." We protected it as our trademark. It is ours, and ours alone. There is no other Caterpillar but the Holt.

Caterpillar outfits for plowing, cultivating, hauling, threshing, and a hundred other uses, are found at the furthestmost points of civilization, from Nome, Alaska, to Cape Horn, South America, and from St. Petersburg on the east to Manila on the west. Every continent knows the Caterpillar. It has won the hardest contests all over the world. Its owners are the highest type of farmer everywhere. It has its imitations, all known as "the Caterpillar type," but it stands alone, by name, by quality, and by results. There is just one Caterpillar, and Holt builds it.

### The World's Leaders Use It

CORNELL UNIVERSITY, Ithaca, N. Y.  
UNIVERSITY OF CALIFORNIA.

ARTHUR BRISBANE, chief editorial writer for the Hearst News Service.

H. J. HEINZ Co., manufacturers of the famous "57 Varieties."

E. I. DuPONT, of the Du Pont DeNemours Powder Co.

F. AUGUSTUS HEINZE, of the American Sugar Co., known as the "Copper King."

DUKE OF SUTHERLAND, one of the largest land owners in Scotland and Canada.

EX-GOVERNOR MILES C. MOORE, of the State of Washington.

B. E. YOAKUM, former president of Frisco Lines, New York City.

BARON NICHOLAS BRUGGEN, of the Union Bank, Berlin, Germany.

O. C. BARBER, of the Diamond Match Company.

THE CUDAHY RANCH, California and Mexico.

THE STANDARD OIL COMPANY.

COLONEL FRANK H. RAY, American Tobacco Co., New York.

SOUTHERN PACIFIC R. R. CO.

KING RANCH, Texas (the largest ranch in the world).

POTTER PALMER RANCH, Florida.

THE WELCH CO., Manila, P. I.

JAFET LINDEBERG, the man who founded Nome, Alaska.

ARCHDUKE JOSEPH, nephew of Emperor Franz Joseph of Austria.

JAS. B. HAGGEN, Elmendorf Farms, Ky.

C. P. DURYEA, Lespedeza Farms, Tennessee.

COUNT HOYOS, of the royal family of Hungary, and brother of the Ambassador to England.

U. S. GOVERNMENT.

C. K. G. BILLINGS, owner of Uhlan 1.58.

IMPERIAL RUSSIAN GOVERNMENT (used for military purposes).

DR. LEO STEINER, eminent agricultural authority of Budapest, Hungary.

AMERICAN BEET SUGAR CO., of California (own sixteen Caterpillars).

VINCENT ASTOR.





## What Our Horses Cost Us

We pay too much for our farm power.

We are not getting "value received."

Twenty-five years ago, when horses and land were cheap, horses were suitable for the farm and the contractor. But today the horse is too costly to buy and to keep for heavy work.

The twenty-five million farm horses and mules in this country last year ate two billion dollars' worth of food, enough to pay the running cost of all our two hundred and fifty thousand miles of railroad.

The amount of food the horse eats, his size, and the money it costs to care for him during the year are all out of proportion to the actual work he does. Edison says he is the poorest motor ever built. He eats twelve thousand pounds of food a year, or ten to twelve pounds for every hour he works. He eats all the food the average farmer raises in a year on five acres, yet the year around, he averages only  $3\frac{1}{2}$  hours' actual work for each week day. He tires out in six hours. His price has increased 143 per cent in the last ten years. The cost of his food, his barns and his care has increased. The only item remaining the same is his power. He is not one pound stronger today than he was thirty years ago, and he will never improve as fast as his cost increases.

In the cities the change to engine power is already taking place. From the local merchant to the big express companies, the horse is being cast aside for the cheaper and better power of machines. Our groceries and our laundry are delivered, and our furniture moved, by motor trucks. Even in the smaller town the merchant is finding that to keep abreast of his rivals—to use fewer men and rigs, and cover a wider territory—he must use the power wagon.

Most of the horse-cost, however, does not lie in the cities, but on the farms. There the change to motor power is slower. The common tractor, which should be to the farm what the truck is to the city, has not proved so great a success as the truck. The tractor does not enjoy the same easy operating conditions as the truck. Its road-bed is not the asphalt and macadam pavement, but often bad roads and all sorts of soft, loose, sandy, wet and muddy fields.

Wherever these conditions are found (and there are no farms without them), the largest of round wheels slip and mire and pack the ground beyond all hope of successful plant growth. Since the very beginning of the traction engine industry this has been the greatest drawback—practically the only one which has kept the tractor from being used as widely to-day, and as profitably, as the motor truck.

## Ben Holt and the Caterpillar

Previous to 1904 Benjamin Holt, President of The Holt Manufacturing Company, had built round-wheel traction engines which did good work and were well known all over the Pacific Coast. But he foresaw that the round wheel could never be improved so that it would work successfully on soft and wet soils. So he tried a brand new kind of wheel. Rather, he threw





away wheels altogether, and attached to his tractor an endless track, which the engine first laid down, then rolled over and finally picked up again, thus giving it a solid steel roadbed to travel over, instead of the loose surface of the ground.

From the beginning his new method was a success. Everybody saw at once that the invention would provide a tractor that would do its work on any kind of soil and in any weather. All that was left was to perfect it—strengthen it—so that it would wear well and give long enough service to be profitable. Every year has seen it made better, until now it would be hard to suggest any improvement.

The action of the Caterpillar track may be compared to the placing of a board across a mud-hole. You may walk on the board and cross in safety, because the board is long enough and wide enough to hold you up. So it is with the twin Caterpillar tracks. They are long enough and wide enough to hold the engine up on the softest soils. At the same time the large area in contact with the ground gives grip enough to propel the engine and its load without slipping and wasting power.

Thanks to Benjamin Holt, a tractor has at last been provided which is a real substitute for the horse in all heavy farm work. We shall never see the horse entirely replaced. He is too handy for small jobs. But the old-fashioned traction engine must go. The Caterpillar is taking its place. And this same engine that can be used anywhere—that has the power of thirty or forty horses, the endurance of a hundred, and cost of only twenty—is making the big team disappear.

## The One Universal Tractor

The real test of a tractor is the service you can get out of it, and the profit it makes you. The Caterpillar stands at the top on such a test. As the following pages will show, it pays at any kind of heavy work. It pays much better than big teams in farm or contracting jobs. It pays much better than round-wheel tractors at the kinds of work in which the latter come the nearest to being successful—plowing, road-building and hauling—because it wastes less power in the gearing and in slippage.

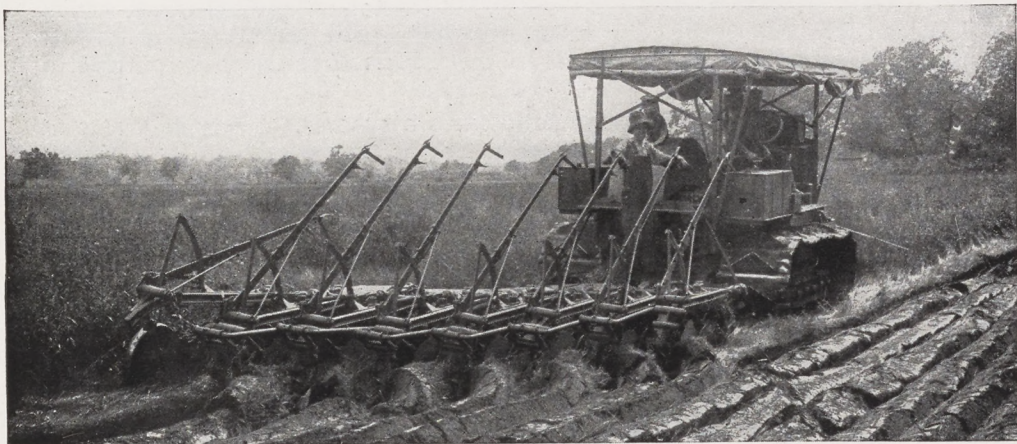
It pays big profits by doing work day after day that other tractors cannot do successfully because of their weight per inch upon the ground, such as discing, harrowing, seeding, cultivating, summer-fallowing, etc. The Caterpillar is working in swamps so soft that a pole may be shoved down by hand ten or fifteen feet into the mud. You need not worry, then, about its being held idle by bad ground or weather.

Interest on the money you put into a tractor is figured by the calendar, not by working days. It goes on, whether you work or not. The only way to beat the interest game is to get the profit from working more days every year.

There are just about so many working days in the life of a tractor. It is your business to get them out of it as quickly as possible. Every day's wear means turning part of that tractor's value back into cash at a profit. Every







*This land is too soft for horses. It is the Kankakee Marsh, near Schneider, Indiana. John Black of that city is the owner of the outfit.*

day's idle rusting means part of the tractor's value absolutely lost. You are taking big chances with Old Man Interest and his partner, Depreciation, when you buy a tractor that will not work under all conditions—in other words, a tractor with wheels—even though you might buy it for less.

You will find the Caterpillar motor and gearing ready to run, too, when you are ready. Holt has been building heavy machinery—engines and harvesters—for thirty years. Nearly 75 per cent of the traction engines in California are Holts. Holt Harvesters annually cut nearly 90 per cent of the grain on the Pacific Coast. Those who have known Holt machinery the longest are its staunchest friends.

## Plowing Costs Cut Down

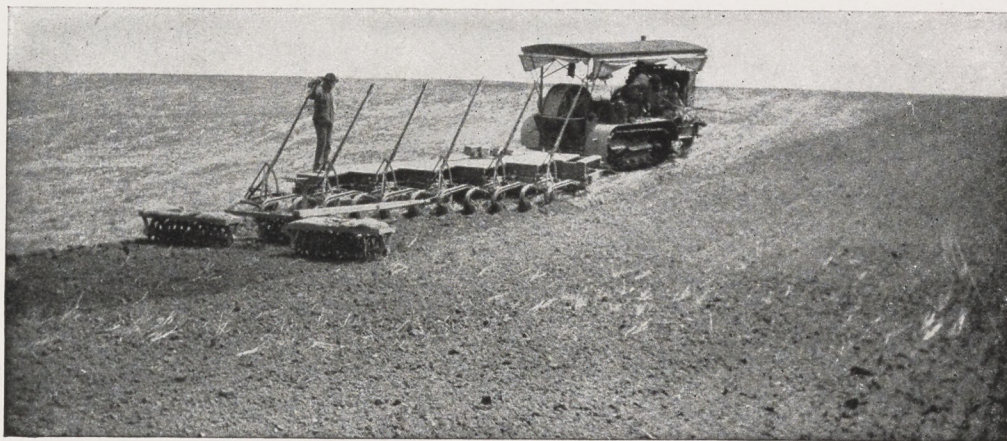
The Caterpillar cuts costs. We can prove it. It will do your plowing at less cost than horses or the old style, round-wheel tractor. You ask why. Here is the reason: *The Caterpillar Track.*

All the power for plowing must come from the motor and the fuel. The Caterpillar track turns more of that power into pull than any other tractor of its size ever built. The power needed to pack down the soil until it will give secure footing to a horse or a round-wheel tractor must all come from the motor, and it takes fuel to make it. The Caterpillar track stays on top of the ground. It does not slip and thus waste power in merely turning wheels without going ahead. It does not pack down the ground so that the tractor is forever lifting itself up a grade of its own making, as round-wheel tractors do. *No waste of power*—that's the first point in cheap plowing.

*No waste of time*—that's the second point. The Caterpillar track will always work and you can plan your season's work regardless of the weather. Expense piles up when men and machines are idle. The Caterpillar pays for itself in the extra days you can plow when plowing at the right time means bigger







*Sixty-horsepower Caterpillar pulling twelve plows and heavy packer through light soil in rolling country.*

crops and profits. A store or a factory that closed every time it rained would soon fail. A tractor that runs only in nice weather, and on dry ground, cannot pay for itself as soon as the Caterpillar does.

*Deep plowing*—there's another point. State and Government agricultural experts are urging you constantly to put the plow down deeper and deeper. Deeper plowing means fewer plows. Fewer furrows mean more side draft with a team of horses—side strains, hard steering, waste of power and wheels slipping over to the plowed ground, with the ordinary wide-wheeled tractor. Deep plowing takes a good grip on the ground if plows are to be pulled steadily and do good work. Round wheels get their grip by being made either very high or very wide. High wheels are weaker—wide wheels increase the side draft.

No round wheel of practicable size can be made as *long* on the ground as the Caterpillar track. It takes a long bite on the soil, but not a wide one. Therefore, the Caterpillar is narrow—very narrow—for its power. It alone lets you plow deep, without wasteful side draft. And it does not slide around while pulling. It "stays put." Caterpillar pull is steady, straight-away pull—the kind that makes good work cheap—because the long tracks lie flat on a big ground surface, touching it at every point.

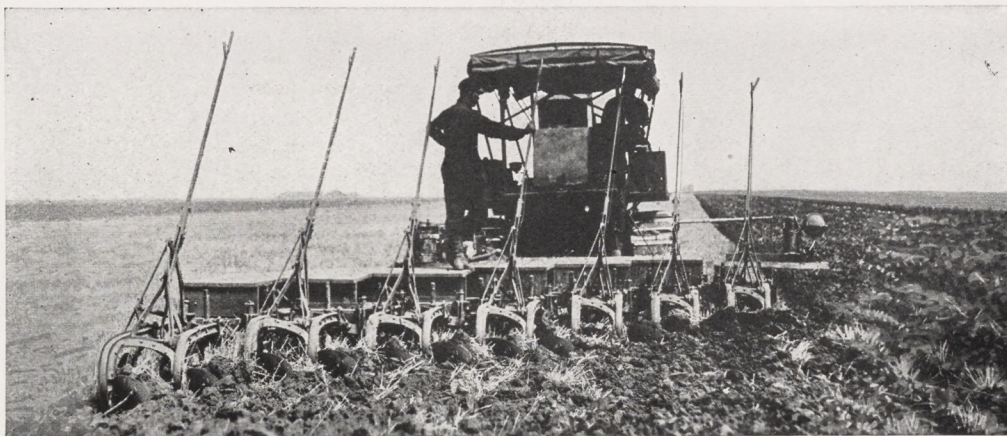
Hundreds of farmers have discarded horses and round-wheel tractors for the Caterpillar. We never heard of one who discarded the Caterpillar and went back to any other kind of power. On the contrary, when a Caterpillar owner needs a second tractor, he buys another Caterpillar. Repeat orders are the surest sign of satisfaction.

#### CATERPILLAR PLOWING COSTS

The Caterpillar is geared for plowing at  $2\frac{1}{8}$  miles per hour. In an ordinary working day, after allowing for stops and turns, it should plow a strip of 18 to 20 miles long. With 10 plows, this would mean 25 to 28 acres. Thirty acres is considered an average in many localities. Light soils increase the day's work—heavy sod breaking and grades cut it down. We cannot give you a satisfactory average, but we repeat that for the same motor power and fuel used, the Caterpillar turns over more land than any other tractor ever built.







*A big load in North Dakota stubble. Note acetylene lighting outfit. This engine works day and night.*

An engineer and a plowman are a full crew. Many outfits are run by one man alone. Forty to 45 gallons of gasoline for the 60-h. p. Caterpillar are a fair supply for a day's work—many owners report less. John F. Cogan, of New York, makes it only 25 gallons for his 45-h. p. Caterpillars "when the machines are kept busy" clearing land. One owner in Minnesota says it takes  $2\frac{1}{4}$  gallons to the acre in plowing. Geo. Ream, in Iowa, says 30 gallons will run his 45-h. p. engine 10 hours, and R. H. Ramey, in Indiana, puts his fuel cost at \$4.00 per day. O. P. Borden says it takes 40 gallons to run his 60-h. p. Caterpillar  $10\frac{1}{2}$  hours. Many owners have found that they can make a saving by using naphtha or California distillate.

Oil and grease run from \$1.00 to \$1.50 per day on the average engine. D. S. Combs, in Tennessee, puts his operating cost at 50 cents an acre for plowing, where mules cost from \$1.50 per acre up, his plow consisting of ten 16-inch bottoms.

You must allow something for interest, repairs and depreciation, just as you should figure, with horses or mules, on barns, feed, care, shoeing, veterinary bills, interest, loss of value by death, disease or injury, and the usual wear and tear. The Yellowstone County Commissioners, in Montana, report the repairs for one year as about equal to shoeing charges on a pair of horses. W. H. Wilbur says he finds \$3.00 a day ample for overhead expense. A Government official recently reported his observations on a Caterpillar during a period of about one month and fixed the overhead charge on that engine at \$4.67 per day. From all reports and our own records, we feel that a charge of \$4.80 per day for these items is a very liberal one, based on only 180 days' work per year, though many operators run at least 250 days and cut their overhead down very low. This refers, of course, to the 60-h. p. size, which is the largest we build.

The following table, then, gives a rough estimate that must be changed to suit local conditions.

Labor (2 men).....	\$5.00	
Fuel.....	6.50	
Oil and Grease.....	1.50	\$13.00
Overhead (Depreciation, Interest, Repairs).....		4.80
Total.....		\$17.80







*Twelve-foot furrow through very dry wheat stubble land near Central City, Nebraska.*

This means, on 20 acres, 89 cents an acre; on 25 acres, 71 cents; on 30 acres, 60 cents. We think you will agree that horses under the same conditions would not plow for less than \$1.50 to \$2.00 an acre, nor round-wheel tractors for less than \$1.20 to \$1.50.

#### DURABILITY CUTS COST

The Caterpillar motor is made to the most accurate standards of the automobile business—parts machined to not more than one-half of one-thousandth of one inch variation from the standard. Our cylinders and pistons *fit*, and waste no power in leakage of gases past the piston rings. We have rejected as high as 80 per cent of cylinders made for us in rush seasons by outside firms, simply because they were from 7 to 9 one-thousandths inch off size. Our bearings are reamed out in exact alignment. All parts are fitted with the same painstaking skill. From feed tank to drawbar, no power is wasted by crude design or clumsy workmanship. The Caterpillar is a smooth-running, long-lived engine, with a low bill for repairs and depreciation.

To look at the Caterpillar track one might suspect a heavy repair bill. Mr. Ream says it is the last and least of his troubles. Frank Weller, of Mitchell, S. D., says the same thing after three years' use. One firm in Minnesota ran their Caterpillar 2,000 miles between June 6th and November 27th and then defied the world to detect any signs of wear on their track. As a matter of fact, all the wear in the track is concentrated on the simple spacing blocks and track pins, a set of which should last at least 5,000 miles. A full set costs less than \$60, or about half the cost of one master gear on the average round-wheel tractor. There is positively less wear on the track shoes than on a wagon tire. The track links, over which the truck wheels run, wear only about one-third as fast as railroad rails in constant use. The Hyatt roller-bearing, dust-proof truck wheels are as durable as the wheels of a freight car.

Here, as everywhere else, ten years' experience with Caterpillars has taught us how to build for hard service and low upkeep cost.







*Caterpillar outfit on Cornell University Farm, New York.*

## Harrowing and Seeding

In the two operations, harrowing and seeding, the problems are alike. The most important of all to avoid is soil packing, the evil which has given tractors a bad reputation in many parts of the United States, particularly in the Central West. Many authorities have claimed that tractors would never be generally used in the Central West because the rich, loamy soil of that territory has often been greatly injured by the rolling action of the common round-wheel tractor. The columns of farm journals all over the country refer to the evil. Farmers who have used round-wheel tractors complain of it.

One farmer in Idaho, where most of the crop was burned last year, states that the marks of the tractor wheels could be plainly seen in his standing grain. In these marks the grain was burned worse than elsewhere, because the top soil was packed and the loose mulch destroyed, so the moisture in the sub-soil could move to the top by means of capillary attraction, and evaporate.

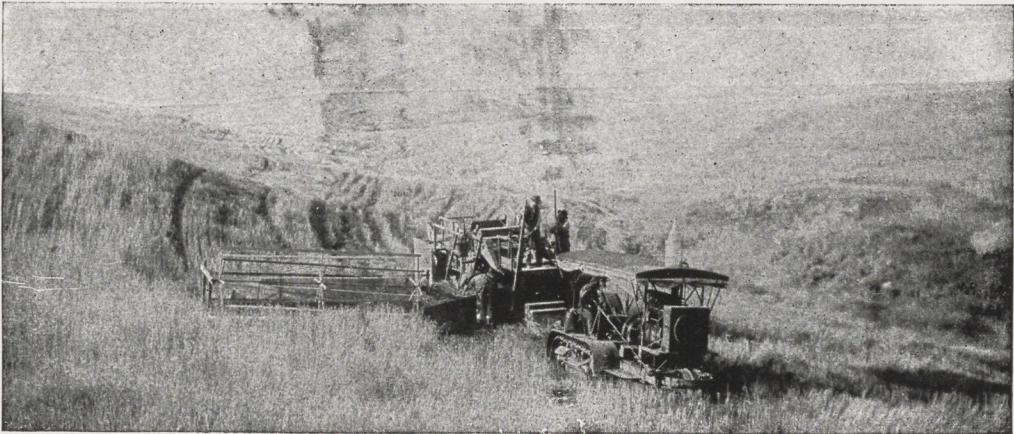
The Caterpillar tractor has removed this objection. It cannot pack the soil to injure it. This is not a loose statement, without foundation, but one that is easily proved.

The track of the 60-h. p. Caterpillar has a flat bearing surface on the ground 72 inches long and 24 inches wide. Multiply 72 by 24 and the result, 1728, is the ground contact area of one track in square inches. Since there are two tracks, there are 3456 square inches supporting the weight of the tractor, which is 23,500 pounds. Divide 23,500 pounds by 3456 and the answer, 6.8 pounds, is the pressure on the ground per square inch.

This pressure will not pack any soil. As a matter of fact, the ground pressure exerted by a man weighing 170 pounds and wearing a No. 8 shoe is  $9\frac{1}{2}$  pounds to the square inch. Figure it out yourself.







*Harvesting with Holt Harvester in the soft hills of Central Washington. O'Brien Brothers of Wilbur, Washington, own the outfit.*

## Harvesting

Time during harvest is valuable. Your tractor should not break down in the middle of the season. It should not delay the gathering of the crop nor keep a crew of men idle, all of which means lost money.

From the foundry to the testing shed, the parts which go into the Caterpillar are rigidly inspected. They pass through a large number of hands, each workman looking for the possible mistakes of those before him. Every safeguard is taken to insure a perfect fitting of the parts and to prevent flaws from being passed. We take care to turn out a perfect machine, and the Caterpillar Service Department follows it up to see that you keep your tractor in running order at all times. You can depend on the Caterpillar.

The land is often soft and ashy during harvest. The Caterpillar then gives the best of satisfaction, because it can work on the softest of soils. We have also made the Caterpillar as nearly dust-proof as possible to guard against heavy wear during harvest. The cooling system of the Caterpillar motor is one of the best and will keep the jackets cool in the hottest days.

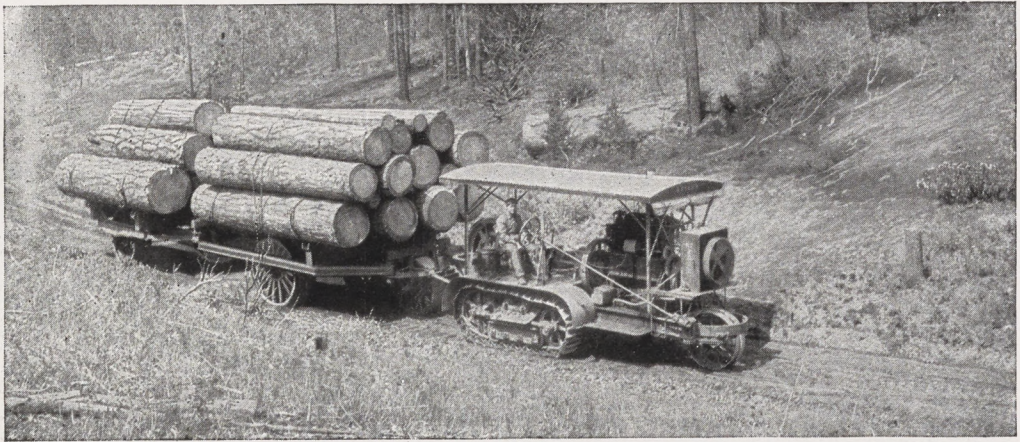
You can work day and night, and not have to stop every few minutes to rest this "steel steed." There is no unhitching and hitching to do morning, noon or night, which adds two hours, or more, to the day. The steadier motion of the Caterpillar, compared with that of horses, also increases the daily acreage and makes the harvester work better.

There can be no better harvesting outfit than a Caterpillar and a Holt Harvester. It will often cut and thresh fifty acres daily, with but five men and no horses, at a cost of about ninety cents per acre. For pulling ordinary binders on wheat or rice land, the Caterpillar keeps going longer, turns shorter, and wastes less power than teams or ordinary tractors.

Ask us to send you special folders on the use of the Caterpillar in harvesting grain, also our Harvester Bulletin, H 58.







*Ray Rauch, of Newport, Washington, owns this logging outfit. He cleared \$350 in one week when all other tractors and horse outfits in the neighborhood were held up by bad weather.*

## Logging

The use of traction engines in logging and lumbering has heretofore been greatly limited. Horses have done the hauling where it was impossible to build a railroad, because of the inability of round-wheel tractors to pull their load on unfavorable soil and road conditions.

But the Caterpillar method proved at once to be more desirable and cheaper than any other. The loggers, thoroughly progressive and always in the market for the latest and best tools, have been quick to adopt the Caterpillar.

Over snow and ice roads, upon soft and sandy roads, on no roads at all, on hilly and rough ground, the Caterpillar will take out more logs than a dozen teams formerly did, reduce the cost remarkably, and often save its price in a season.

M. G. Ashley of Cle Elum, Washington, saved \$27.50 each day that he operated his Caterpillar. He secured his figures by using horses on the same road and over the same route, alongside the engine.

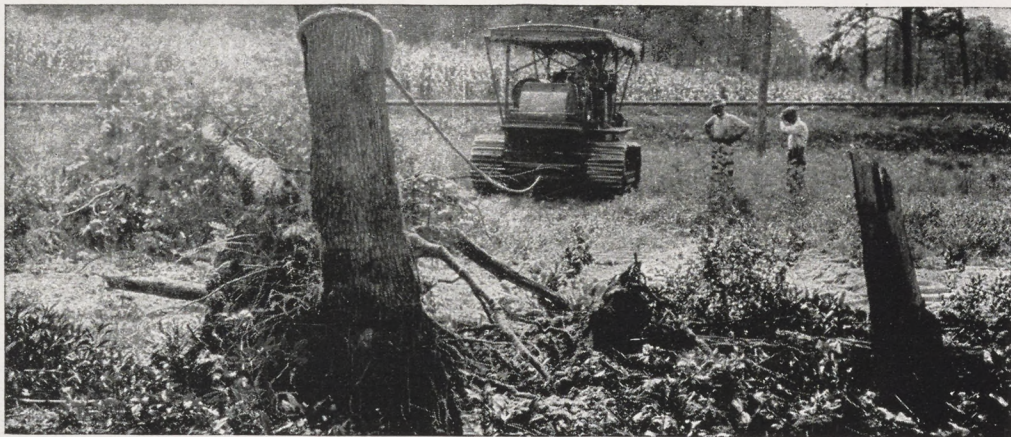
J. C. Kennedy & Son, of Newport, Washington, hauled logs with the Caterpillar last winter over snow roads when all other work in the vicinity was at a standstill. Even horses could not work.

Ray R. Rauch, of Newport, Washington, logged for years with horses and knows the advantages of the two methods. His decision is entirely in favor of the Caterpillar, after four months' steady work. He hauls from 40 to 60 tons over distances varying from 2 to 4½ miles. Most of the haul, as usual, is down hill, although there is one short pitch which he estimates to be a five per cent grade. One week in the latter part of May, 1913, he cleared \$350.00 above operating expenses when all horse and round-wheel tractor outfits in the vicinity were unable to work because of muddy roads.

Send for a list of loggers in the Northwest who are enthusiastic Caterpillar owners. You ought to get our special folder on logging, too.







*Arthur Brisbane, greatest editorial writer, owns this Caterpillar. With it he is clearing off four thousand acres in New Jersey.*

## Clearing off Trees and Stumps

John F. Cogan Company, large contractors of New York City, purchased three big Caterpillars for clearing the site of the Ashokan Reservoir, part of the great \$300,000,000 water system now being constructed for the City of New York. These engines saved thousands of dollars for their owners. No other method could duplicate their performance.

Hillsides, holes, ditches and swampy lands proved no obstacles. The engines fairly walked over them all. One engine uprooting an average of fifty trees an hour for four hours, is an unusual record, when one considers that the capstan type of stump puller can handle only twenty to twenty-five hitches an hour. The capstan takes the same amount of time for a small stump as large one, while the Holt Caterpillar pulled the smaller trees and stumps very quickly.

When the Caterpillar pulls a tree, the roots come with it. The tree can then be cut up as required, the brush, limbs, stumps and roots being piled and burned. Rough and swampy places can be cleared with the Caterpillar and a cable several hundred feet long, where other tractors could not even approach the work.

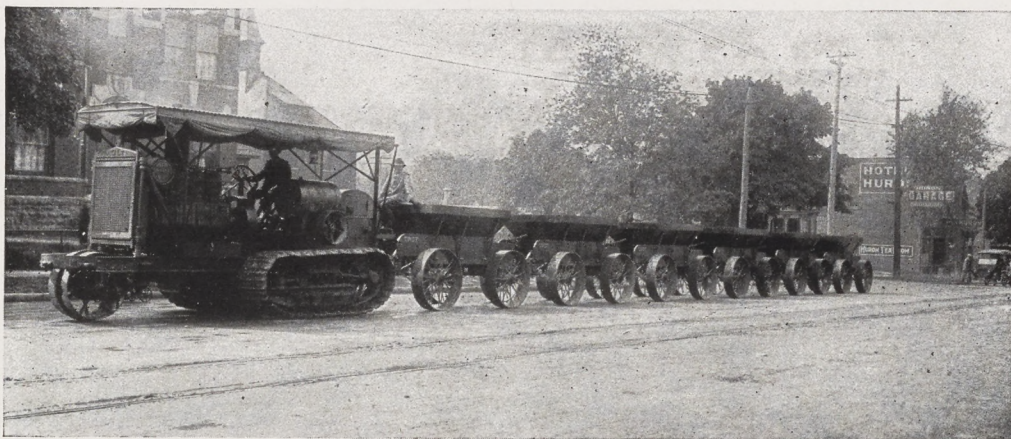
On the aqueduct job some stumps had rotted above ground, but had well-preserved roots, so the tops would break off. These stumps were dynamited. To remove the pieces, we fitted the Caterpillar with a boom and pulley, at an additional cost, which lifted and carried the stumps at a big saving in time and cost.

## Clearing Sage Brush Land

One of our 60-horsepower Caterpillar Gas Tractors and a Caterpillar Sage Brush Plow, operating on the land of the Golconda Cattle Company, Golconda, Nevada, of which Congressman Kent, of California, is the chief owner, cleared the land at a cost of about \$1.00 per acre, a very low figure.







*Hauling rock on the asphalt streets of Pontiac, Michigan. No injury to the pavement.  
Outfit of C. S. Bartlett, Pontiac, Michigan.*

The sage brush was about four feet high. An attempt was first made to clear the land with a drag consisting of a piece of timber 10 x 10 inches x 20 feet long. The drag required 20 horses, and it was necessary to cover a piece of ground with it at least four times before plowing. Even when this was done, at least one-fourth of the brush was left on the ground and later plowed under, to cause great trouble with harrows and mowers the first year the land was farmed.

After buying the Caterpillar outfit they averaged clearing about fifteen acres a day. After the brush was grubbed, a rake, similar to a hay rake, attached to the rear of the plow, piled it up neatly, ready for burning. The grubbers resemble shovel plows and plowed the land to a depth of three or four inches as they passed over, putting the land in fine shape to hold moisture.

## Building Roads, Grading and Hauling

Those who need traction power in hauling, and in building and grading roads, need a tractor which does not depend upon first-class surface conditions to do good work. A slight rain will often tie up an entire road-building crew and their machinery until the road has dried enough to allow the round-wheel engine to proceed.

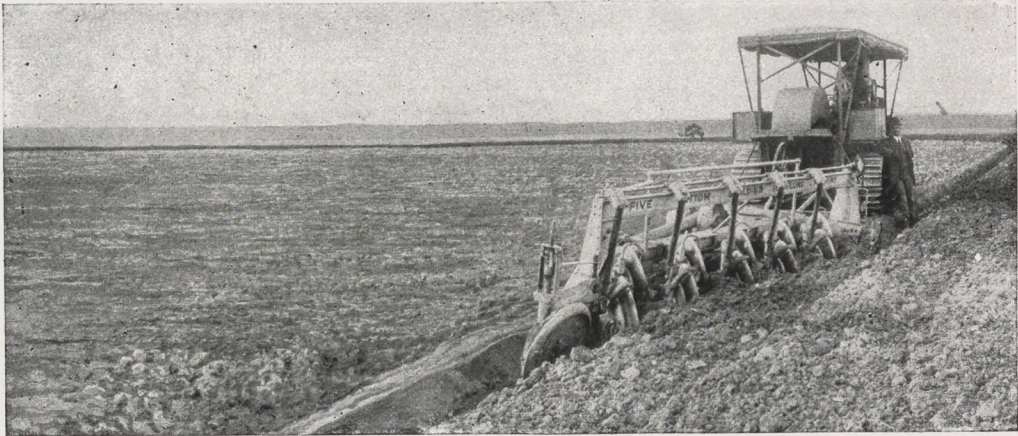
A sandy stretch of ground may stop work altogether with an ordinary engine. But the Caterpillar can work right along when others cannot.

Kilpatrick Brothers Company, of Beatrice, Nebraska, contractors, who are well-known over the entire country, own seven Holt Caterpillars, six of them in use in contract work, the other on their farm.

Skagit County, Washington; Kittitas County, Washington; the City of Fresno, California; and the Warren Construction Company, Coeur d'Alene, Idaho, all find the Caterpillar of the utmost value in their work.







*Deep plowing with Spaulding Deep Tilling Machine. In this work, so necessary to sugar-beet and bean cultivation, the Caterpillar is unequaled. The picture was taken on the Experimental Farm at Amarillo, Texas.*

The Skagit County Commissioners find their hauling of crushed rock with the Caterpillar costs them less than 45 cents a yard. Previous experience with a round-wheel tractor showed a cost of \$1.00 a yard, and the work when done with horses cost them \$1.50 per yard.

The official records of the Warren Construction Company prove the cost of hauling in their case to be 7 cents a yard with the Caterpillar, and 30 cents a yard with horses.

Pigeon Grove Township, in Iroquois County, Illinois, has owned a Caterpillar for two years. The officials say they are satisfied in every way. They can now do their work when they want to, or when it should be done, and they can do it right. The Caterpillar turns in a narrow road, works over uneven ground or loose sub-grades, and is so well suited to road work that highway officials and contractors in many states have been quick to adopt it.

Write for a special folder on the use of the Caterpillar by contractors.

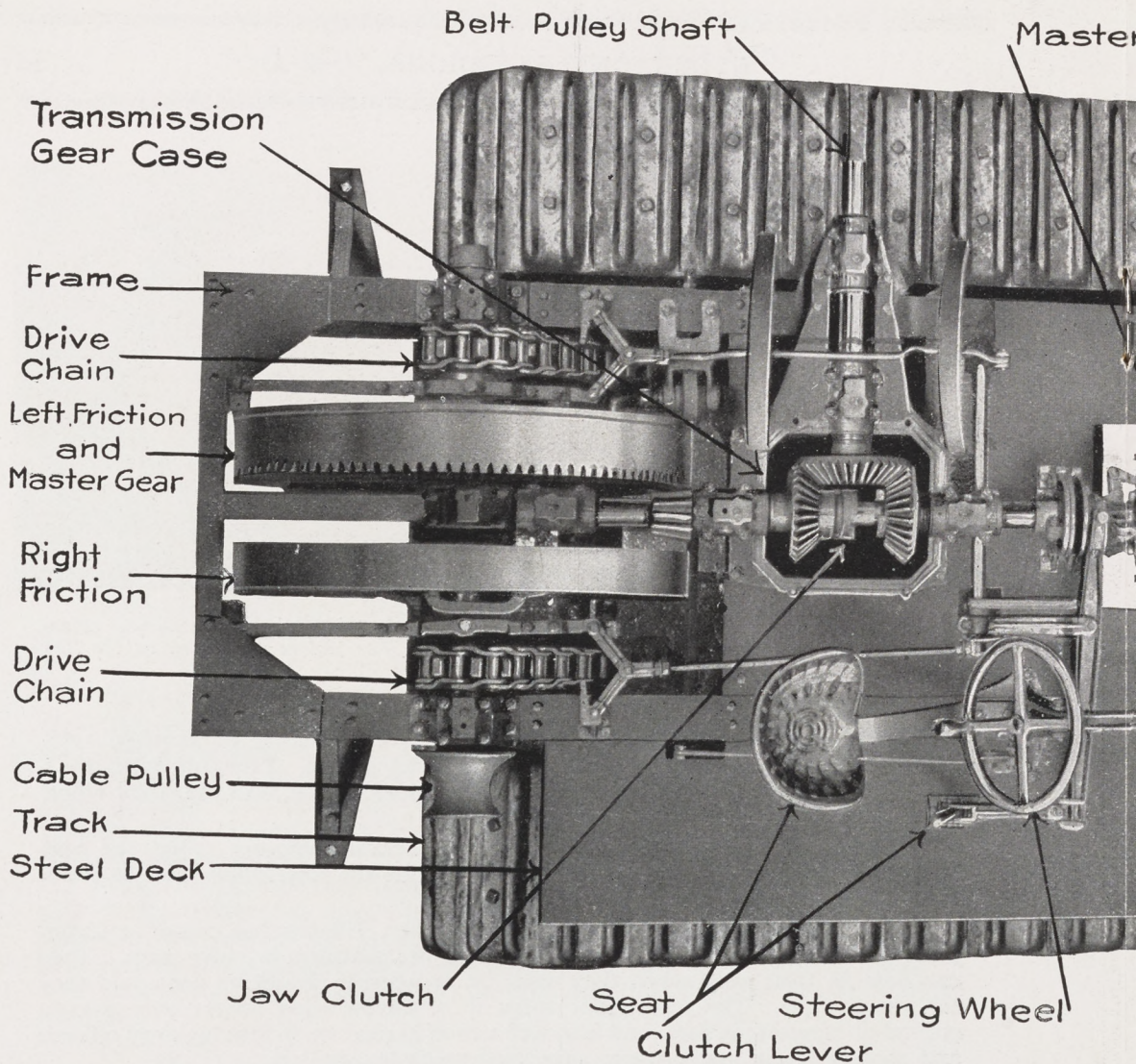
## Sugar Beet Cultivation

In the cultivation of sugar beets, plowing from twelve to eighteen inches deep is absolutely necessary. Until we brought out the Caterpillar, this deep plowing could be done successfully only by double-engine-and-cable outfits imported from England at a cost of about \$30,000 each. Write to us for a list of those sugar-beet companies of California and elsewhere who have purchased Caterpillars for this purpose. There are seventeen companies in all, and they own sixty Caterpillars. These are what we call repeat orders and are the best testimonials possible. The same Caterpillars are used for cultivating, pulling beets and hauling, because they do not injure this very valuable land.





## Top View of 60-horsepower



## Dimensions and

**GENERAL DIMENSIONS.**—Width over all, 8 feet, 8 inches, with 24-inch Caterpillar track; length over all, 19 feet, 6 inches; height over all, with canopy, 10 feet; tread, 6 feet, 8 inches; weight, 23,500 lbs.

**MOTOR.**—4-cylinder, 4-cycle; cylinders cast singly; 7-inch bore by 8-inch stroke.

**HORSEPOWER.**—60 b. h. p. continuous at 550 r. p. m.

**VALVES.**—3 inches diameter, of 3½ per cent nickel steel, forged solid throughout. Lift on intake, 7/16 inch; on exhaust, 9/16 inch.

**CRANKSHAFT.**—High carbon steel, drop forged and double heat treated. Turned and ground to within .0005 inch in size.

**CRANKSHAFT BEARINGS.**—Five bearings, 2¼ inches in diameter, total length 25¼ inches. Crankpin bearings, each 2¼ inches in diameter by 3¾ inches long.

**PISTON.**—Best grade of close-grained gray iron, ground and polished to within .0005 inch in size. Four packing rings and four oil grooves. Can be removed from

crank case, operator standing on the ground.

**PISTON PIN.**—Diameter 2 3/16 inches. Made from cold drawn steel tubing, case hardened, ground to exact size and held rigid in piston head.

**COOLING.**—Water circulation by gear driven centrifugal pump. Vertical tube radiator of spiral copper finned tubes. 30-inch suction fan.

**IGNITION.**—A good modern high-tension magneto system is used.

**LUBRICATION.**—Automatic self-contained splash system with sight feed. Pump driven by gears from cam shaft and located in oil reservoir.

**MOTOR CONTROL.**—Special type governor regulating throttle. Hand levers on steering wheel regulating speed within the limits of the governor in motor base.

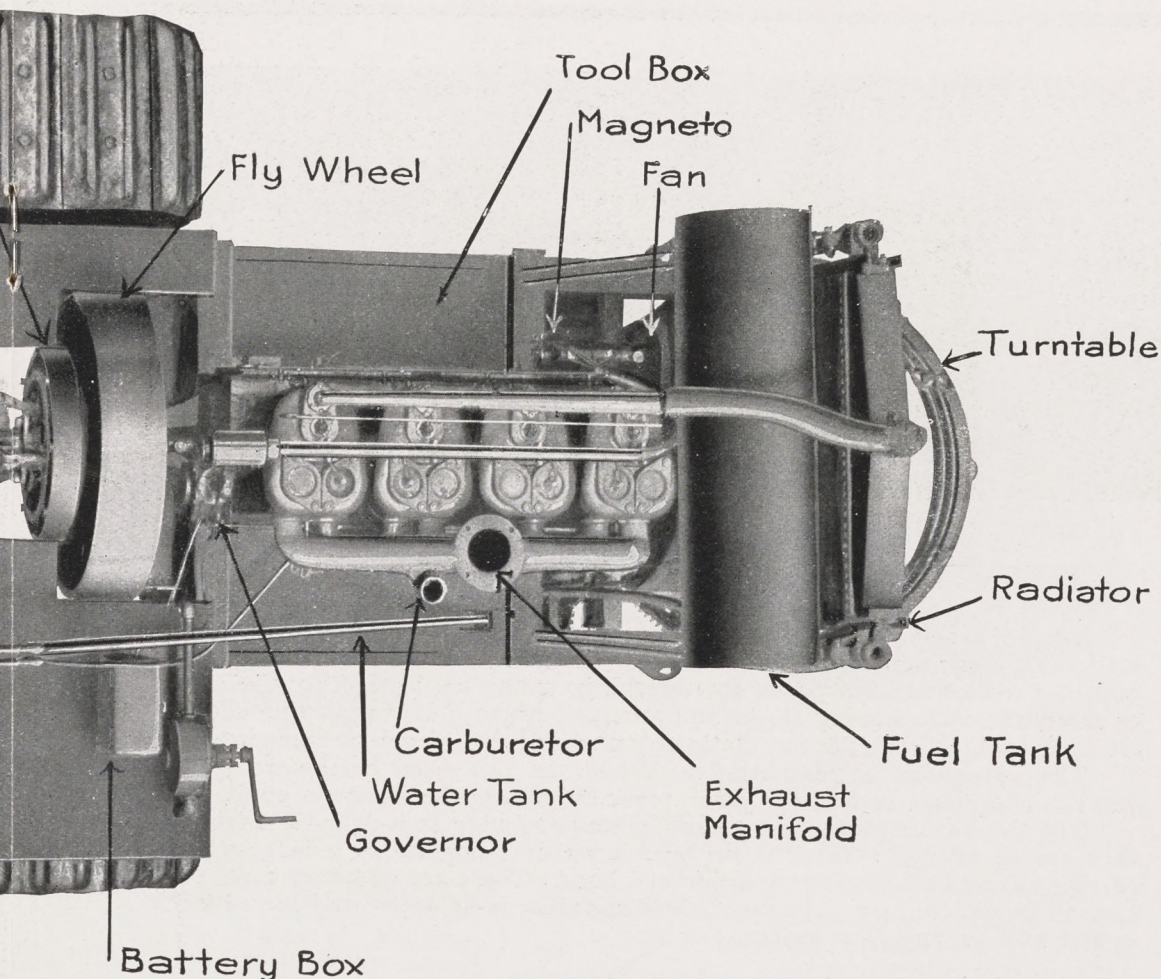
**CLUTCH.**—Multiple disc. Five discs; friction material, bronze against cast iron.

**DRIVE.**—Shaft with bevel gears to countershaft. (No power passes through gears



# Lower Caterpillar Tractor

er Clutch



## Specifications

in transmission case on forward motion.) Double chain, bushing type, to Caterpillar tracks. Drive to each track governed by frictions, allowing entire machine to be driven by one track when needed. Frictions are expanding shoe type, equipped with equalizing links, so same pressure is exerted at all times by both shoes. Main drive shaft divided in order to allow one track to move independent of the other. All gears cut and enclosed in dust-proof cases.

**SPEEDS.**—Forward  $2\frac{1}{2}$  miles per hour; reverse  $2\frac{1}{2}$  miles per hour, normal engine speed. Equipped with both regular and high speed if desired, at extra cost.

**TRUCK WHEELS.**—Five gray iron truck wheels, chilled face, on each side to carry the weight of the engine. Truck wheels turn on dirt-proof roller bearings. Truck spring mounted.

**TRACK.**—Caterpillar track is built up of cast steel links annealed; equipped with manganese space blocks. Joints formed by case-hardened pins. Total rail surface, 10 inches.

**TRACK SHOES.**—Track shoes are made of drop forged plow steel. Equipped with corrugations, lugs or grouters, to give a firm grip on road surface. Furnished in two widths, 24 and 30 inch.

**MAIN FRAME.**—8-inch "T" beams, all connections hot riveted.

**SPRINGS.**—Weight of Caterpillar carried on double coil springs. Drive shaft is spring driven. Relieves tractor of road vibration and absorbs the shock of picking up the load.

**FRONT WHEEL.**—Built up type, with flat riveted spokes, spring mounted.

**STEERING GEAR.**—Worm and gear type.

**TANK CAPACITIES.**—Gravity fuel feed system. Fuel capacity, 100 gallons. Water tank capacity, 70 gallons.

**BELT PULLEY.**—22-inch diameter by 12-inch face.

**TOOLS.**—Necessary tools and extras in trimming box with each engine.





*Stationary threshing. Blowing straw into barn. Outfit of A. L. Brown, Sherlock, Washington.*

## Belt Power

We have said very little about the advantages of the Caterpillar for stationary work under the belt, but with the standard extension shaft and pulley, it makes an ideal power for threshing; baling hay; grinding; shelling or shredding corn; hulling clover and alfalfa; pumping; sawing; filling silos; crushing rock; hoisting; or any stationary work requiring up to 60 horsepower.

The Caterpillar is guaranteed to deliver its full rated horsepower and you can add many days to the year's work by getting the complete outfit.

The Caterpillar motor is a steady, smooth-running four-cylinder engine, very saving of fuel. There is no trouble about lining up to a belt, or in changing from belt power to traction and back. There are no heavy parts to take off or put on again. In short, the Caterpillar is as handy and successful in belt work as any other tractor can be.

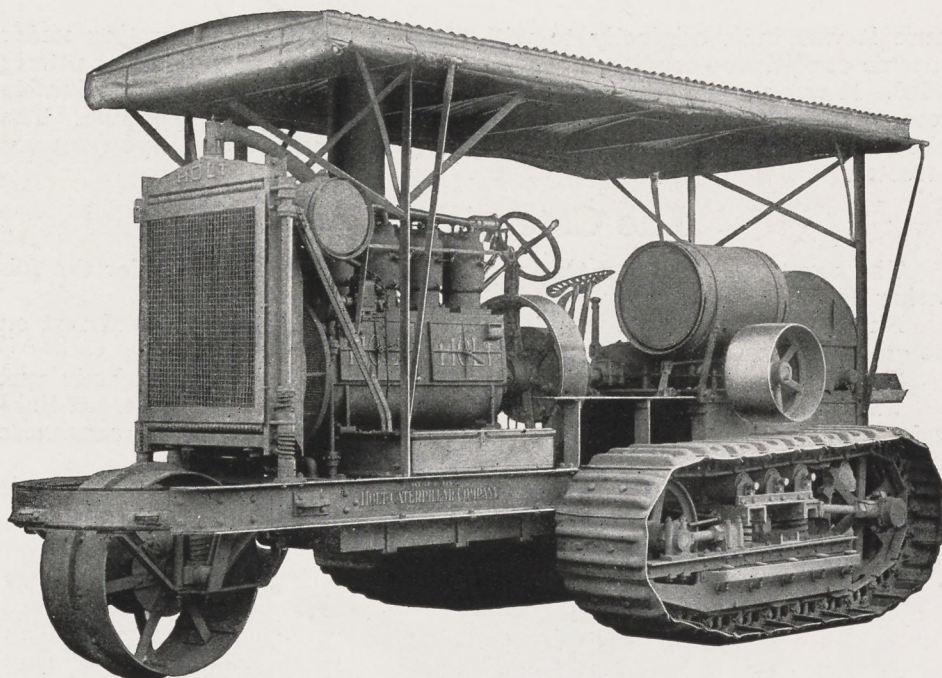
## Drawbar Power

Round-wheel tractors get their grip through their great weight and the sharp lugs, or "grousers," on the wheels. These lugs are as high and as sharp as the road laws in the different States will permit, but still do not get a good grip. Many such tractor wheels are weakened by having holes bored in the rim, ready for the addition of sharp spikes five or six inches long, for field use only. Even then the slipping of the wheels under load is considerable, often as high as 15 per cent on good ground. In soft ground it is nothing unusual to see such a tractor "spin" its wheels and dig a deep trench, getting out of which means delay and often requires help from horses or another tractor.

The Caterpillar takes a good long "bite" on the surface of the ground. It does not cut in, nor pack the ground like a road roller, in order to get a grip. It cuts out the waste of power in useless turning of the driving mechanism. Therefore, it turns the engine power at the crank-shaft into pulling power at the drawbar with less loss than in any other tractor.







*Sixty-horsepower Caterpillar. Left side, showing stationary pulley.*

## Caterpillar Construction

As far back as 1897, Holt Steam Engines were equipped with drive wheels *thirty-six feet wide* in the effort to get a tractive power needed for the economical development of the great western agricultural areas. While these big wheels served their purpose to a certain extent, greater traction than any wheel type of tractor could develop was needed—and out of this necessity was born the Caterpillar.

It is capable of operating in any field where a plow can be used; through sand, mud, over hard rough surfaces or hills, and over freshly plowed fields without danger of soil packing. It provides the only known power for plowing marshy, reclaimed or soft bottom land; it is adapted to the peculiar conditions of the rice-growing districts; it alone is practical for discing and seeding, as all other types necessarily pack the soil and destroy its condition. It is equally efficient in the hardest and toughest soils, such as the mesquite lands of Texas or the hard dry clays of the South. It is the ideal power for all overland hauling requirements. It provides steady and reliable power for threshing, pumping or any similar belt work. It is the only general purpose tractor capable of meeting all the power requirements of modern farming.

The Caterpillar has proved itself a success and is free from the necessity of experimental changes. No tractor has even been put to harder tests, be-





cause it was built originally to withstand the strains of operating under extreme conditions—conditions where the wheel type of tractors had utterly failed. It was made adaptable to all conditions from necessity, built durable from experience, and proved inexpensive in upkeep through operation. The following detailed description is worthy of your careful study if you can use a tractor.

## The Caterpillar Track

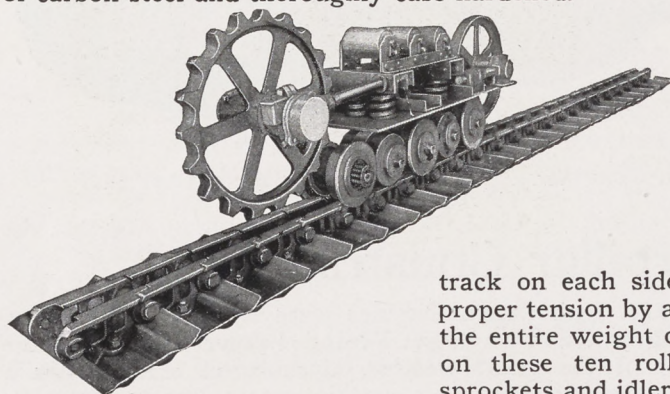
The construction of the Caterpillar track can be placed under the following heads:

First: High-carbon plow-steel shoes which bolt to links and rest on the ground.

Second: Cast carbon steel track links on which the truck wheels run.

Third: Track link space blocks which are pressed into the track links under a pressure of twenty-five tons. These blocks are cast of manganese steel.

Fourth: The track pins which hold the links together. These are made of carbon steel and thoroughly case hardened.



*Caterpillar track spread out, showing manner in which truck wheels roll along the smooth, steel rails. Also note spring mounting, which assumes the jolts and jars.*

In place of big drive wheels, the Caterpillar traction device consists of five rollers, spring mounted from the main frame; one steel drive sprocket, and one idler that assists in carrying the

track on each side, which is held at the proper tension by a thrust rod. Practically the entire weight of the machine is placed on these ten rollers, the duty of the sprockets and idlers being only that of laying and picking up the track.

The entire arrangement is simple and has no complicated or rapidly moving parts. The weight of the machine, being evenly distributed and spring mounted, is carried without severe shock or vibration.

The track rails are of cast steel, with a combined width of ten inches, equal to four ordinary eighty-pound railroad rails. The truck rollers are of gray iron with chilled face, and are equipped with dust-proof roller bearings. The space blocks between the rails, with which the sprocket teeth engage, are of manganese steel. The track pins are of high-carbon mild steel, case hardened.

The main drive sprockets are of carbon cast steel and equipped with cushion springs. Each track is driven through a separate clutch, thus making it possible easily to control the motion of each, and to turn the machine completely inside of a circle thirty feet in diameter.





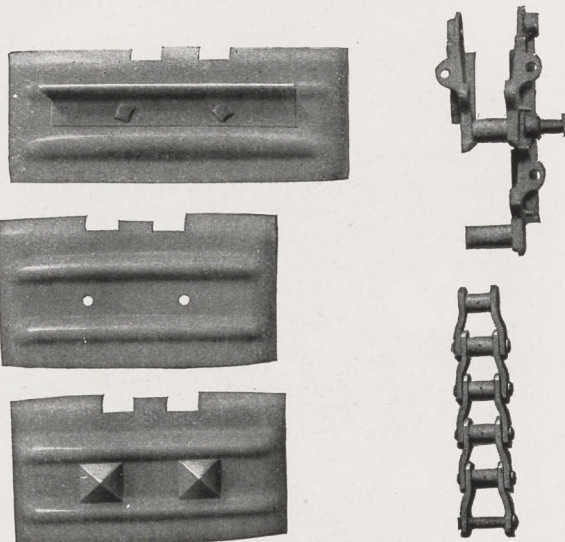
## No Jar or Vibration

The Caterpillar Track bridges the unevenness of the ground surface, thus relieving the Caterpillar of the constant jar and vibration put upon any engine which must conform to all the bumps and hollows. Every jolt and jar received in this manner by any traction engine means wear and tear on mechanical parts. The fact that the Caterpillar always travels on level rails relieves it of this strain.

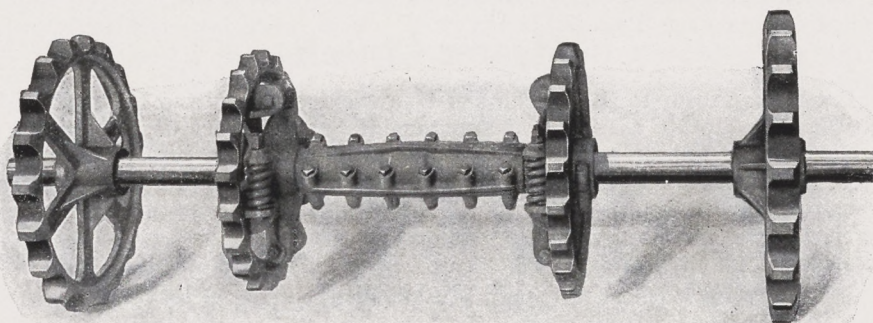
### Transmission

The transmission on the Caterpillar is composed of a bevel gear and chain drive combination. The first set of gears is enclosed in an oil-tight case and these gears accomplish the reverse and belt pulley drives. On forward motion no power is transmitted through these bevels. From this case the balance of the drive is carried through one set of bevel gears and a set of chain and sprockets. This gives on the entire drive only two gear reductions and is the most flexible type of drive ever used on a traction engine.

In the erection of the transmission every means possible is used to align all gears and sprockets perfectly. The bearings are all babbitted with a babbitting jig, which places every bearing in its proper position and proper relation with the balance of the parts. Every bearing is also afterwards line



*Different styles of track shoes, steel drive chain and track links partly assembled.*

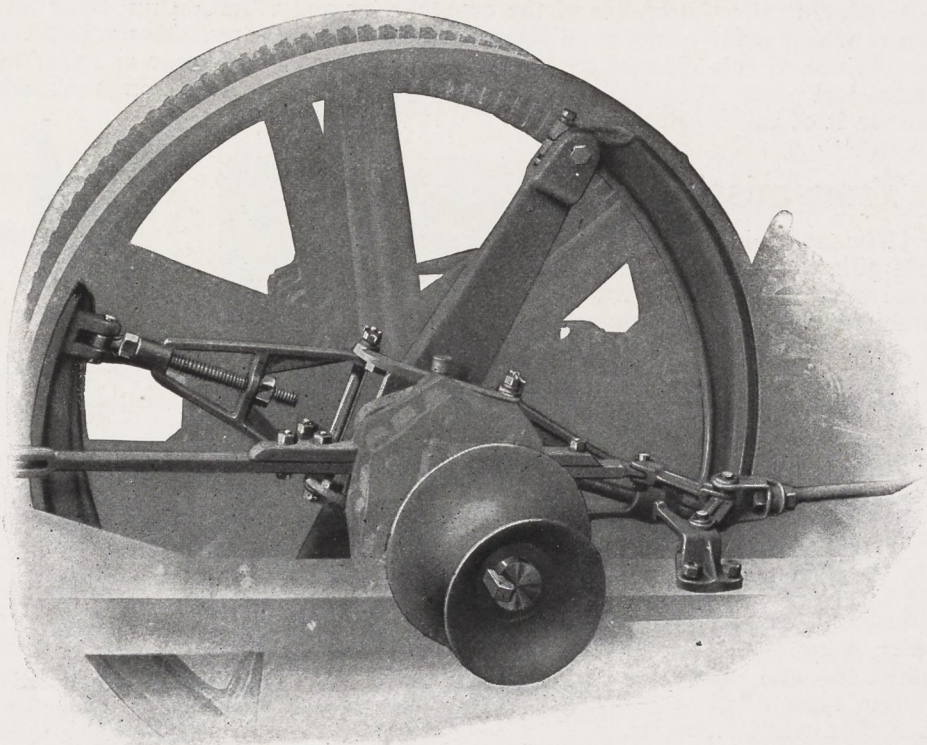


*Rear shaft, sprockets and equalizing sleeve. No differential is used.*





reamed and shimmed with good hard fibre shims. Bearing trouble is therefore reduced to a minimum by having bearings in the best possible shape before the machine leaves the shop.



*Each Caterpillar track is separately controlled. There is no differential to prevent your pulling with both tracks when needed. This method also affords short turning. This picture shows the friction clutch which controls the track. The gypsy, or cable-winding spool, a handy attachment, is also shown.*

### Master Clutch

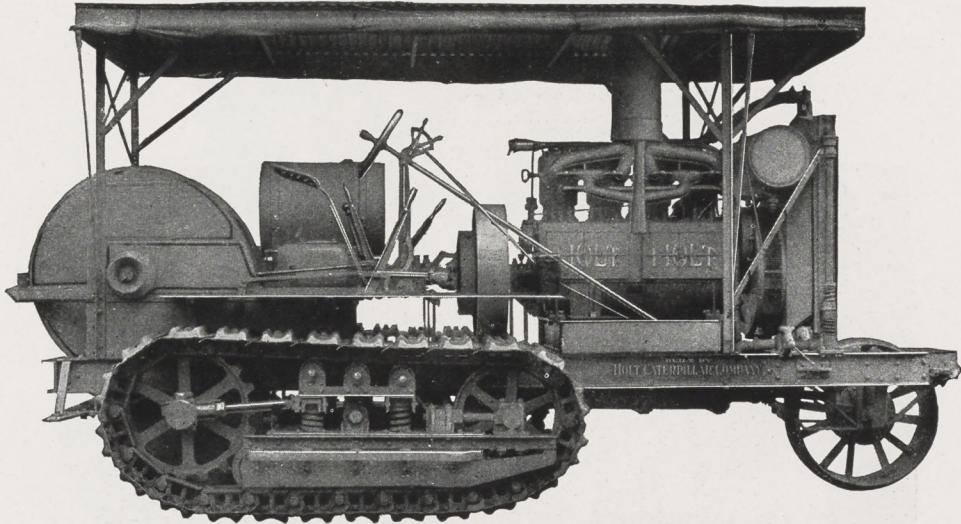
From the motor to the clutch shaft, power is transmitted by means of the multiple disc clutch, simple and substantial. It consists of two high-grade bronze plates running against three plates of cast iron, making a five-plate clutch. This clutch is most positive in its action and under easy control of the operator. When picking up a load, it is capable of starting the full capacity of the machine without jerk or vibration.

### Reverse and Belt Pulley Drive

The clutch shaft carries a bevel pinion on the opposite end from the main clutch itself. This pinion meshes with a second bevel pinion on the belt







*Right-hand side of 60-horse-power Caterpillar Tractor. Note the low center of gravity and yet good clearance.*

pulley shaft and in this way accomplishes the belt pulley drive. Opposed to and meshing with the pinion on belt pulley shaft is a third bevel pinion, which is equipped with two jaw clutches, as is also the pinion on the clutch shaft. Between these two pinions is a sliding double jaw clutch.

When this jaw clutch is in its extreme forward position, forward drive only is accomplished, and no power is being transmitted through the bevel pinion shaft. When this clutch is in its center position nothing but the belt pulley is driven. When, also, the clutch is in its extreme rear position, reverse drive is accomplished.

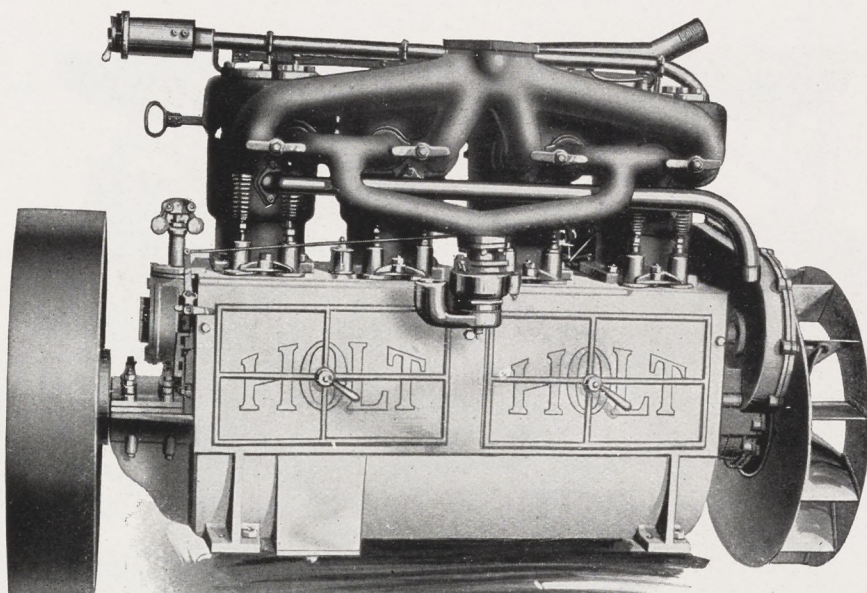
The pulley shaft is very rigidly supported in two bearings, which are cast integral with the gear case itself. It is, therefore, held in perfect alignment with the balance of the transmission and is capable of transmitting the full rated horsepower of the motor. The machine is therefore fully adapted for all classes of belt pulley work, or stationary power work within the limit of the power pulley itself.

A two-speed transmission can also be supplied for the machine at a small additional expense. The two speeds will be mounted in the same case as the reverse and belt pulley drives.

In one public test the Caterpillar turned 79.9 per cent of its engine power into plowing power, and in another, 67.6 per cent. That is why we can rate the Caterpillar at 60-brake and 40-drawbar horsepower, and at 30-20 horsepower, instead of 15-30, 20-40, 30-60, 35-70, etc., as round-wheel manufacturers are forced to do.







*Right-hand side of Caterpillar motor, showing carbureter.*

## Driving Pinion and Bevel Gear

Back of the gear case itself is mounted a bevel pinion cut from a solid piece of hammered steel. This pinion is accurately cut and case-hardened. It meshes with the bevel drive gear mounted on a large countershaft revolving in a high grade of babbitt bearings. The countershaft and drive pinion are solidly fixed in position. The large bevel gear is supported and kept from being forced out of alignment by means of a supporting roller. Every assurance is given, therefore, that these gears will be in perfect alignment at all times.

## Independent Drive

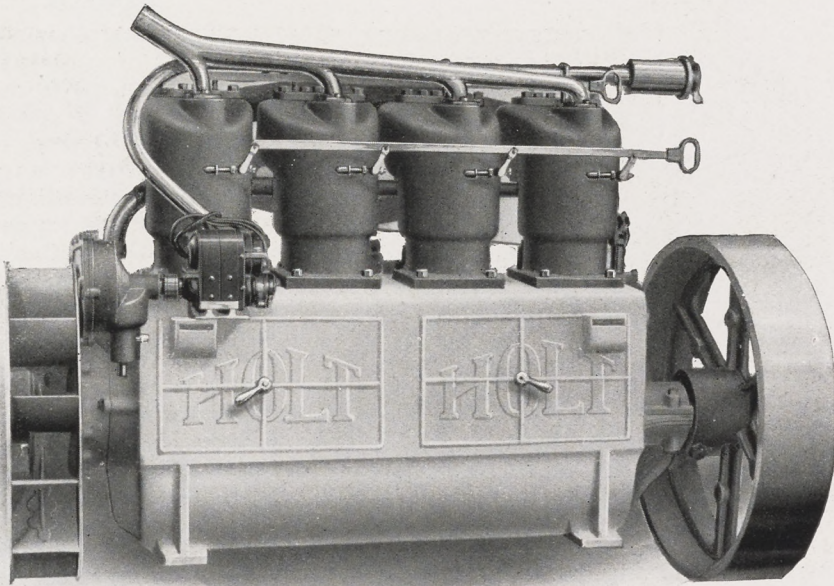
In the Caterpillar the troublesome and complicated differential gear has been entirely eliminated. In its place has been substituted an independent drive, simple in construction, but allowing the Caterpillar to turn in its own length, something which is impossible in a tractor using a differential gear.

The power for each Caterpillar track is controlled separately by a friction clutch operating on the inside rim of the large friction wheel and bevel gear. When this clutch is taken out of either side, the Caterpillar track on that side remains stationary, with all the power pulling on the opposite side, resulting in a very short turn, so desirable in tight places.

The main drive shaft or rear axle is made in two sections. The two sections meet at the center of the machine and are held in alignment with each





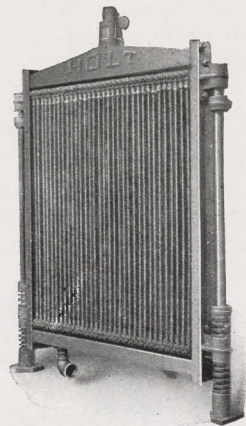


*Left side of Caterpillar motor.*

other by means of a cast-steel sleeve, one end of which is bushed with a cast-iron bushing, and the other clamped to the end of one of the shaft sections. This permits the movement of one side of the machine without affecting the opposite side.

### Final Drive

From the countershaft the power is transmitted to the main drive, or Caterpillar track, shaft by two large steel chains. These chains are of the built-up type of high-carbon steel side bars, equipped with case-hardened steel bushings. The upper sprocket, which engages with this chain, is of manganese cast steel, and the lower of high-carbon cast steel. The lower sprocket drives through cushioned springs in transmitting its power to the main drive shaft. This assists in absorbing the vibrations of the variable loads and reducing the shocks on the transmission gearing.

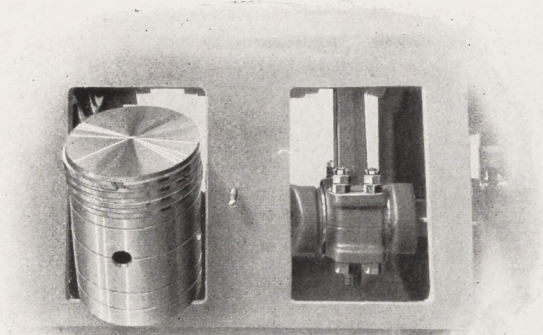


*The spring-mounted radiator prevents leakage. The tubes are upright so they may be easily and well drained during cold weather.*





## Motor



*The Caterpillar won first prize for accessibility at the Winnipeg tractor contest in 1912. Here is one instance of its value. Pistons may be removed through the side of the crank-case without disturbing the cylinders.*

The Caterpillar motor is the result of constant effort to produce a motor in every way capable of continually performing the work intended for it. After a long, careful study of conditions to be met in the field, we now feel that the Caterpillar motor represents the most dependable power plant in use today on any traction engine. In farm work the gasoline motor is exposed to all conditions of the weather. One of the hardest elements to guard against is the dust and sand arising in field operations. We have, therefore, devoted every effort to pro-

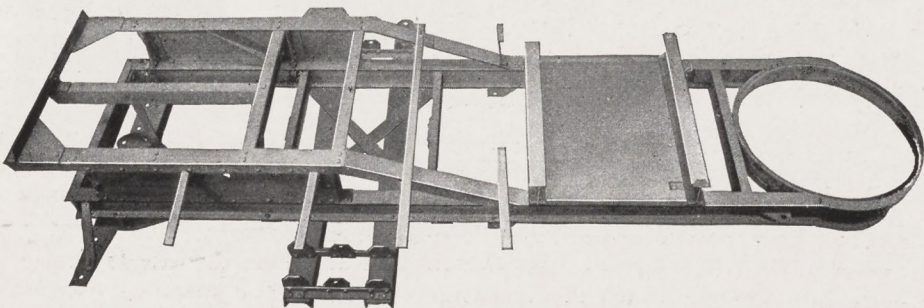
tecting all the working parts of the motor thoroughly from these foreign elements.

### Cooling System

It has also been found that the life of any motor depends upon an efficient cooling system. Any motor which is not properly cooled loses power and ultimately destroys itself. The motor, therefore, has been equipped with the best radiator that could possibly be built for the purpose, and at all times is perfectly cooled to work at its maximum efficiency. The circulating pump is the best that can be made.

### Lubricating System

The attractive feature of the lubricating system of the motor is its simplicity. It requires but little attention and does its work most successfully. The bed of the crank case is divided into four compartments, one under each crank. Underneath and in connection with these is a main oil reservoir. On removing the hand-hole plates, oil is poured directly into the main reservoir.



*A sturdy, well-braced frame.*





The oil is pumped in turn, by means of a gear pump driven from the cam shaft, from the main reservoir into the four compartments under the cranks; these compartments when full overflowing again into the main reservoir.

As the crank shaft revolves, the end of the connecting rod strikes the oil at every revolution and splashes it over all the interior working parts of the motor. To enable the operator to see at a glance if the oil is circulating properly, a sight feed-glass has been mounted on the top and to the right-hand side of the crank case, through which all the oil must circulate before it passes into the four compartments. The gear pump used in this case for circulating the oil is of the double gear type, which pumps oil from either end of the crank case, so that the motor is not affected by changes of the level of the machine at any time.

### Valves

The valves are made of  $3\frac{1}{2}$  per cent nickel steel, forged solid. The stems and seats are both ground before assembling them into the machine. The "L" head construction of the motor simplifies largely the number of working parts and reduces trouble to a minimum. It also makes all the parts more accessible for quick adjustment.

### Cylinder

The cylinder was designed with special reference to its cooling properties and for getting proper circulation of water. The cylinder jackets are made as thin as possible so as to hold a high velocity of water within the jackets, also to avoid at all times any formation of steam pockets.

### Crank Shaft

Made from the best grade of high-carbon steel, drop forged and double heat treated, giving a most uniform structure. This shaft is turned and ground true to within one-half thousandth of an inch to size.

### Piston

Made from the best grade close grained cast iron, ground and polished to within one-half thousandth of an inch to size. It is equipped with four packing rings and has four oil grooves. The piston pin is  $2\frac{3}{16}$  inches in diameter, made from cold drawn steel tubing, case-hardened, ground to exact size, and held rigid in piston head.

### Governor

The governor used on the Caterpillar is of the two-ball centrifugal type. It is driven by means of bevel gears from the cam shaft. It allows the motor to pick up its load rapidly and prevents racing of the motor when load is removed. The throttle of the motor is also under control of the operator by means of a throttle lever near the steering wheel. This throttle lever works directly in connection with the governor and varies the speed at which the engine may be run when working under load.





### Ignition

A good high tension ignition system is used with a modern standard tubular coil. The wires are thoroughly protected from all dirt and oil by means of a copper tube, which runs directly from the magneto over the top of the cylinders, carrying all the wires which run between the magneto, spark plugs, and coil.

### Carbureter

The motor is equipped with a standard make of carbureter. It is of ample size to permit the motor to carry its full load at all times. Fuel is fed to the carbureter through a gravity feed tank, which is fastened directly in front and above the motor.

### Bearings

The crank shaft has five bearings and is  $2\frac{3}{4}$  inches in diameter. It is drop-forged from .45 carbon steel and is triple-heat treated, giving a most satisfactory and serviceable crank. The bearings are all turned and ground to size within .0005 variation. The rear bearing is 9 inches long, the three center bearings are  $3\frac{7}{8}$  inches long, and the forward bearing 5 inches. All the crank bearings are equipped with genuine babbitt bushings. These bearings are line-reamed and therefore an absolute alignment of all bearings on crank shaft is accomplished. This relieves any undue strains on the shafts proper and adds materially to the life of the motor.

The upper connecting rod bearings are equipped with a high-grade bronze bushing, the bearings being  $2\frac{3}{8}$  inches in diameter by  $3\frac{1}{2}$  inches long.

The wrist or shaft pin is made of cold-drawn steel tubing, case-hardened, and ground to within .0005 variation.

### Radiator

The radiator is of the vertical tubular type construction. The tubes are arranged in sections, three in each section, thirty-three sections in all. In case of trouble of any kind, any one of these sections may be removed and repaired. If at any time it should be necessary to clean out the sediment, which always collects in any gas engine radiator, it is very simply done by dismantling all the sections.

The radiator proper is spring mounted to the frame so as to avoid any vibration tending to cause leaks.

## All Parts Easily Accessible

At the motor competition at Winnipeg, in 1912, the Caterpillar was awarded the highest number of points for accessibility. Any part of the Caterpillar motor may be reached from a standing position on the ground, and any adjustment may be made without removing numerous other parts to make the adjustment. By removing the plates on the side of the crank case and disconnecting the lower end of the connecting rod, it is possible to remove the four pistons through the holes in the side of the crank case without disturbing any part of the cylinder. The valves are situated in an "L" chamber on the side of the cylinder, and to remove or grind any valve it is only necessary to remove the valve chamber cap above that particular valve, which is held by means of two five-eighths-inch studs.





## Steel Deck and Frame

The Caterpillar proper is equipped with a steel platform made of  $\frac{1}{4}$ -inch diamond floor plate. This adds materially to the general appearance of the machine and gives rigidity to any parts which fasten to the platform itself.

The rear transmission is protected from dust and dirt by means of a steel hood. This hood is so designed with proper opening, so as to permit the operator to make any adjustments which he may find necessary.

The frame is built of two heavy section 8-inch "I" beams, which are thoroughly reinforced by means of cross-members of "I" beams and channels. The superstructure of this frame, which supports the main transmission, is made of 3 x 5 x  $\frac{3}{8}$ -inch angles, reinforced to the main "I" beams by means of  $\frac{1}{4}$ -inch plates. This gives a most rigid frame, so as to avoid any binding strains on the transmission.

## Front Wheel

The front wheel is controlled by means of a steering device composed of a worm and gear combination. The wheel itself is spring mounted and is carried by means of a turn-table ring. The wheel is 36 inches in diameter and 18-inch face. It has a rotating axle carried in babbitted bearings on each side of the wheel. Eighteen inches of the end of each main frame "I" beam is built around and formed to fit the curve of the front circle and securely riveted in place, producing additional strength.

## Caterpillar Wins Exciting Contests

Wherever tractor manufacturers line their machines up for a public trial, the Caterpillar comes through with colors flying. No conditions are too hard, nor no tests too long, for it to tackle. Here are a few especially hard-fought contests which show that the Caterpillar is "true blue."

### BUENOS AIRES, ARGENTINE REPUBLIC—1911

A number of both American and European tractors were entered. When the conditions were published, all were withdrawn but the Caterpillar. It went through every test satisfactorily and won the prize of \$3,000.00 in gold.

### WILLOWS, CALIFORNIA—SEPTEMBER, 1912

On T. L. Knock's ranch the Caterpillar plowed twice as much ground in the same time as its competitor of the same rated power, and used five gallons of distillate an hour to the other tractor's nine.

### ELMIRA, CALIFORNIA—DECEMBER, 1912

The Solano Irrigated Farms held a trial in which the Caterpillar went clear through its plowing test with a load that its round-wheel competitor could not pull around the field alone. It also pulled the competitor out of a mud-hole. Both tractors were rated at the same power. The result was a total of nine Caterpillars sold to the Solano Farms.





## HICKMAN, CALIFORNIA—JANUARY, 1913

The Caterpillar, in a week's trials, outpulled its competitor, going easily over loose sand and other soft soil where the other tractor could not get a grip. When the Caterpillar pulled its load up a sandy hill, the other company gave up without trying to follow. The superintendent of the ranch said the Caterpillar and the Holt Disc Plow cut much deeper than the other outfit, and his concern bought two Caterpillars as a result.

## BILLINGS, MONTANA—MAY, 1913

This contest was held before the County Commissioners, who wanted to buy an engine for road building. The Caterpillar and eight round-wheel tractors were entered, and each was given a strip of road to grade. All the round-wheel tractors found trouble in turning on the narrow road, while the Caterpillar easily made the turn. Some of the engines did well with their stretches, while others failed absolutely. The Caterpillar finished its stretch in one hour and twenty-five minutes' less time than the nearest rival. The Caterpillar engineer then surprised all spectators by hitching to a grader and completing 350 yards of road in one hour and forty-two minutes.

The Caterpillar representative then challenged them all to another test, the work being to pull two graders and build a half mile of road. Two other tractors were entered. One round-wheel tractor went through a bridge, so the Caterpillar again surprised the crowd by crossing the ditch alongside. One competing tractor built its road well without any mishap, taking five hours and using twenty-four gallons of gasoline. The other made a very poor showing, while the Caterpillar finished on eleven gallons of gasoline in two hours and twelve minutes. The Commissioners stated afterwards that the Caterpillar had the worst piece of road in the county to start with. They purchased the Caterpillar.

## ST. PETERSBURG, RUSSIA—MAY, 1913

To celebrate the three-hundredth anniversary of the reign of the Romanoff dynasty, the Imperial Automobile Club, under the patronage of the Czar, held an exposition and a tractor plowing contest. The Caterpillar won a gold medal at the exposition, and another in the plowing trials, defeating five German and two other American machines. Two competitors withdrew when it was announced that the tests would be held on swampy land. The Russian Emperor is the largest farm land owner in the world. He visited the show and was much interested. The Russian government at once bought two Caterpillars for the use of the Army, sending the order by cablegram.

## MAGDALENE, SOUTH AMERICA—AUGUST, 1913

Twelve round-wheel engines were entered against the Caterpillar by both American and European firms. In a contest covering several weeks of very hard work, the Caterpillar finished every test successfully and won the first prize of \$15,000.

## FRESNO, CALIFORNIA—OCTOBER, 1913

Against a 70-horsepower tractor of the "Caterpillar type," the Caterpillar tractioneer refused to take a handicap of two plows which was twice





offered by the judges. The 60-horsepower Caterpillar pulled the same load much more easily, did a better and deeper job of plowing, and was given first prize.

#### HUNGARY—1913

The Caterpillar won first prize in all tests against thirty-one other machines.

#### KIEV, RUSSIA—1913

At the Kiev Zemstov Exposition, the Caterpillar defeated two American and one German machines, winning a gold medal.

#### TUNIS, ALGERIA—1913

Caterpillar was awarded all first prizes in a public contest.

#### COMPEIGNE, FRANCE—1913

Caterpillar was awarded first prize in an international contest.

#### TUCSON, ARIZONA—JANUARY 15-17, 1914

Seven makers of tractors were invited to demonstrate their machines in plowing, cross plowing, sub-soiling, and other farm work before farmers and short-course students at the University of Arizona. Only the Caterpillar went through the tests and it was bought immediately by the Casa Grande Valley Water Users' Association.

#### GLENDALE, ARIZONA—FEBRUARY 14, 1914

Caterpillar sold to Manistee Ranch after contest against three round-wheel tractors entered by two of the largest companies in the business.

## Holt Service

The firm of Holt Bros., which grew finally into The Holt Manufacturing Company, was established in 1869. The present company was incorporated in 1892. During the last forty-five years, the Holt business has grown steadily, year by year. There have been no failures in its history, and no sudden expansions.

The Holt idea of "Big Business" is that it should be based on the one thing that makes a small business successful, and that is—SERVICE.

"Service" is a common and much abused word, yet the thousands of lifelong customers on the Pacific Coast know that "Holt Service" means the attention that first wins customers and then keeps them satisfied.

Holt, the first and only large builder of power-farming machinery originating west of the Rocky Mountains and growing eastward, brings to the Eastern customer the same policy of service that has built up the business to the point where more than two-thirds of the tractors working in California were made by Holt.

You can be sure of repair service from the factory at Peoria and from the many Eastern branches. You can be sure that your tractor will not suffer from lack of expert attention when needed. You can bank on being thoroughly posted as to its care and operation, so that you will seldom need to call for help. You will never be neglected if you become a Holt owner.





## Price and Terms

The price and terms on which the Caterpillar is sold are fair to all and are the same to every customer. We neither cut prices nor grant long terms. The tractor that cannot be sold fast enough on merit is often offered at a discount or on some other secret understanding. The Caterpillar deserves its full price. The customer must be prepared to pay it.

The question of price is a big one. In the tractor industry the first price quoted has too often been merely the starting point for a "dicker." But in the automobile trade the policy has been to maintain fixed prices and satisfied customers. Our policy is the same as that of the big car manufacturers.

The price of the automobile indicates its class and what you can expect from it. Price is a sure measure of quality. The real price of a tractor, also, is a measure of the service it will give you. You get what you pay for.

For light work, the low-priced car, or truck, or tractor, may be good enough. But most tractor work is hard and heavy. You cannot afford to buy what you cannot use in the way you want to, and when you want to use it. The Caterpillar costs more than what you actually have to pay for some tractors that are claimed to be "just as good." But there is no other tractor just as good, and there is no other tractor that will pay you as much in return for the money you put into it.

The price, after all, is not so important as getting a machine that will do your work when you want it done. The Caterpillar will come much nearer to being ready for work every day in the year than any other tractor. It is built strong enough to avoid mechanical troubles if you give it the care you should give any machine. It cannot pack the ground and spoil your crop. It forms no share hand-pan, as horses do. It works under conditions that would not allow you to use teams or the round-wheel traction engine. It earns enough more in a few weeks while other machines are standing idle to pay the difference between its cost and the lowest price for which you could buy any other tractor of the same power.

Results are what you want. The Caterpillar makes results certain. It will do your work, save your land from damage, help you to get maximum crops at low cost, and make you a handsome profit. You can buy it only at one price, under the same terms that any man gets. It may cost more than others, but not what it is worth in proportion, and probably not as much as you think.

We are selling the output of two big Caterpillar factories on this policy and the guarantee printed in our order blank. The rapid growth of our business seems to prove that the policy and the tractor are right. The many medals won in contests all over the world speak for themselves. But the best proof that the Caterpillar is worth its cost is the large and growing number sold to men and corporations who have tried other tractors and found them wanting.

## The Caterpillar Times

Every month we print a sixteen-page magazine, called "The Caterpillar Times," brimful of the latest news from Caterpillar owners. It is free to farmers, contractors, engineers, and others who want our literature regularly.





